

OREGON NHMP MISSION: TO CREATE A DISASTER RESILIENT STATE OF OREGON.

OREGON NHMP VISION: NATURAL HAZARD EVENTS RESULT IN NO LOSS OF LIFE, MINIMAL PROPERTY DAMAGE AND LIMITED LONG-TERM IMPACTS TO THE ECONOMY.

Action Item										Priority	Political Support	Recommendation		
2012 #	Statement	Description	Lead	Support	Score ≈ Benefit/Cost	Priority (1-3)	Agree	Change Priority to	Remove					
5	NEW CI-0	Complete statewide hazard identification: • Earthquakes • Tsunamis • Volcanoes • Flooding • Landslides • Coastal Hazards • Wildfire • Drought • Dust Storms • Wind Storms • Winter Storms		IHMT Agencies										
68	Revised CI-1E	Landslides: Complete statewide hazard identification		DOGAMI	29	1								
71	Revised CI-1H	Drought: Complete statewide hazard identification		OWRD	29	1								
61	NEW MP-10A	Create a "Clearinghouse" for natural hazards data		DLCD, DAS, DEQ	23	1								
38	NEW MP-15A	Implement the Rapid Assessment of Flooding Tool		OEM, DLCD, DOGAMI	22	1								
48	NEW MP-5B	Through FEMA's Risk MAP program, update 1,000 miles of streams with lidar-based flood mapping		DLCD, DOGAMI	22	1								
60	NEW EO-68	Create an informational website for the new Base Flood Elevation Determination Service.		DOGAMI, DLCD	21	1								
77	NEW EO-37C	Produce new lidar-based flood hazard maps		DOGAMI, DLCD	21	1								
45	NEW EO-65	Update the inventory of shoreline protective structures.		DLCD	19	1								
43	NEW LP-22	Update the state's Peak Discharge Estimation Program.		OWRD	19	1								
78	REVISED CI-7A	LIDAR survey the State's ROW (rights of way), west of the Cascade Range, to determine where landslide potential exists.		DOGAMI	17	1								
42	NEW LP-21	Install real-time monitoring capabilities on state-operated stream gages		OWRD	15	1								
64	Revised CI-1A	Earthquakes: Complete statewide hazard identification		DOGAMI	29	2								
67	Revised CI-1D	Flooding: Complete statewide hazard identification		DOGAMI	29	2								
69	Revised CI-1F	Coastal Hazards: Complete coastal hazard identification		DOGAMI	29	2								
48c	NEW MP-35	Evaluate the impact of climate change on landslides.		DOGAMI	22	2								

62	NEW MP-10B	Develop a multi-agency State of Oregon flood hazard website	Create one-stop data, information, and map clearinghouse for flood hazards. Website will be cooperative effort between authoritative data sources - DLCD, DOGAMI, OEM, OWRD, and federal partners (FEMA, USACE, NWS, USGS).	DLCD, DOGAMI		21	2			
75	EO-37	Create new LiDAR-based Landslide Inventory and Susceptibility Maps, especially near population centers.	DOGAMI will create these maps in cooperation with local municipalities. Specific methods and priority locations are still to be determined.	DOGAMI		21	2			
39	NEW MP-15B	Add at least three new flood inundation forecast points to the National Weather Service's Flood Inundation Mapping website and the USGS's Flood Inundation Mapper before 2018.	The National Weather Service Advanced Hydrologic Prediction Service (AHPS) has developed inundation mapping sites for various stream gage locations nationwide. Currently Oregon does not have any sites with inundation mapping. This is a useful emergency management tool for understanding potential inundation areas based on NWS forecasts. (National Weather Service: http://water.weather.gov/ahps/inundation.php ; U.S. Geological Survey: http://wim.usgs.gov/fimi/)	DOGAMI		19	2			
79	NEW CI-23	Identify, prioritize, and map areas susceptible to rapid channel migration	Identify areas susceptible to rapid channel migration. Prioritize those areas' susceptibility and rank their risk from a rapid channel migration event. Create channel migration zone and risk maps for the areas determined to have the highest risk for rapid channel migration.	DOGAMI, DLCD		17	2			
66	Revised CI-1C	Volcano: Complete statewide hazard identification	Identify the volcanic hazards including in terms of probabilities	DOGAMI		29	3			
72	Revised CI-1I	Dust Storms: Complete statewide hazard identification	Identify the dust storm hazards including in terms of probabilities	OEM		29	3			
73	Revised CI-1J	Wind Storms: Complete statewide hazard identification	Identify the wind storm hazards including in terms of probabilities	OEM		29	3			
74	Revised CI-1K	Winter Storms: Complete statewide hazard identification	Identify the winter storm hazards including in terms of probabilities	OEM	ODOT	29	3			
47	MP-5	Complete implementation of NFIP Map Modernization program in Oregon.	Work cooperatively with FEMA to ensure that the NFIP map modernization program is fully implemented in Oregon, giving high priority to remapping of coastal areas due to age of existing FIRM maps and potential severity of flooding and related erosion hazards.	DLCD, DOGAMI		22	3			
48d	NEW MP-36	Evaluate sediment impacts to Oregon's water resources.	Oregon has unique water resources, some of which are for drinking water. Landslides can have a great impact on this resource by input of large amounts of sediment. Evaluation of erosion potential by watershed would help the regulators and providers identify areas for mitigation.	DOGAMI		22	3			
23	NEW EO-64	Update the 2000 Guidelines for conducting site-specific geohazard investigations.	The state has guidelines for conducting site-specific seismic investigations. The guidelines date from 2000 and need to be updated. The update should expand the scope of the guidelines to cover site-specific investigations for all geohazards.	DOGAMI		19	3			
80	NEW MP-32	Implement sea level rise modeling		DOGAMI		19	3			
87	MP-23	Assess hazards associated with active crustal faults newly discovered by statewide lidar program.	Particularly in central and eastern Oregon, the major earthquake hazards result from poorly known crustal faults. Lidar has greatly expanded the ability to find these faults, which should be systematically evaluated for their potential to generate damaging earthquakes using trenching, geophysical and field studies	DOGAMI		15	3			
78a	REVISED CI-7B	LIDAR survey the State's ROW (rights of way), west of the Cascade Range, to determine where seismic fault potential exists.	The acquired information can improve critical infrastructure (CI) resilience in the face of seismic events, by providing useful information to planners, design professionals and decision makers prior to delivery system construction.	DOGAMI			3			
82	Revised CI-1L	Complete statewide risk assessment: <ul style="list-style-type: none"> • Earthquakes • Tsunamis • Volcanoes • Flooding • Landslides • Coastal Hazards • Wildfire • Drought • Dust Storms • Wind Storms • Winter Storms 	Assess the exposure, their vulnerabilities and estimate damage and losses. Exposure could include schools, emergency facilities, water and waste water, dams and levees, transportation, telecommunications and the energy sector.	IHMT Agencies		29				
83	NEW EO-66	Refine coastal erosion risk mapping for Tillamook County and its cities to utilize a fully probabilistic approach.	Revise coastal erosion risk mapping and analysis for Tillamook County, and cities within the County, to utilize a fully probabilistic approach. Probabilistic modeling approaches will be used to better address uncertainty and allow local and state hazard managers to use the information to better manage uses based on the relative risks. This will assist DLCD/DOGAMI to increase assistance to local governments in developing inventories based on sound technological research and in incorporating this information into their coastal management programs.	DOGAMI		20	1			
84a	REVISED CI-4A*	Request and compile seismic and flood information for personnel-occupied buildings from other agencies and the university system.	Determine earthquake damage and losses expected to occur to the state owned building inventory including higher education buildings. Produce information to enable development of statewide priorities and strategies to guide mitigation of earthquake risk, to protect lives during an earthquake, and to preserve ongoing operations after an earthquake. Use accepted methods to determine building type, construction and occupancy, to estimate damage and losses due to various earthquake scenarios and probabilities relating to building codes.	DAS-EAM		17	1			
84b	REVISED CI-4B*	Request seismic and flood information from landlords as part of analyzing potential leased spaces going forward in new leases and potential renewals.	Determine earthquake damage and losses expected to occur to the state owned building inventory including higher education buildings. Produce information to enable development of statewide priorities and strategies to guide mitigation of earthquake risk, to protect lives during an earthquake, and to preserve ongoing operations after an earthquake. Use accepted methods to determine building type, construction and occupancy, to estimate damage and losses due to various earthquake scenarios and probabilities relating to building codes.	DAS-EAM		17	1			

84	REVISED CI-4C*	Investigate/inventory DAS-owned buildings for seismic risk.	Determine earthquake damage and losses expected to occur to the state owned building inventory including higher education buildings. Produce information to enable development of statewide priorities and strategies to guide mitigation of earthquake risk, to protect lives during an earthquake, and to preserve ongoing operations after an earthquake. Use accepted methods to determine building type, construction and occupancy, to estimate damage and losses due to various earthquake scenarios and probabilities relating to building codes.	DAS-EAM	DOGAMI	17	1			
106	NEW MP-37	Develop new standardized risk assessment methodology across all hazards, at the state and local levels.	Oregon does not have a clear and common methodology to identify the most vulnerable populations across all hazards at the state and local levels. In 2013, the IHMT RAS-C in partnership with the OPDR and the InfoGraphics Lab at the University of Oregon developed a model concept, 3-year workplan and budget. Pending funding, this model could be fully developed between 2014-2017 and then be used to inform the 2018 OR NHMP. Upon full development, the model will allow state and local governments to better identify where to strategically target mitigation resources.	DLCD			1			
108	NEW CI-26	Complete a Climate Change Vulnerability Assessment and Adaptation Pilot for north coast highways.	The goal of ODOT's pilot is to conduct a regional vulnerability assessment and prepare options for adaptation actions and priorities. In coordination with ODOT Maintenance, the project will collect and map vulnerability and risk data based on climate science, asset conditions, and known and anticipated natural hazards. Hazard sites will be selected within a study corridor for more detailed analysis. Based on engineering and technical reviews, adaptation measures will be developed for vulnerable infrastructure and assembled into a coastal adaptation implementation plan. ODOT received a Federal Highway Administration grant to conduct the project, scheduled for completion in fall 2014.	ODOT			1			
85	NEW CI-24	Identify funding to support various transportation providers and local jurisdictions to conduct comprehensive vulnerability assessments of their transportation facilities and services.	OSSPAC, in the Oregon Resilience Plan has identified an immediate near-term need to inventory and assess vulnerability and mitigation opportunities for local street networks, transit assets, ports, airports, and railroads.	OEM, DOGAMI, ODOT		16	2			
107	NEW MP-38	Develop new climate-hazard data and a social vulnerability index; and integrate into local NHMPs.	There is high demand among various agencies for 1) fine-grained data on social vulnerability and 2) climate-induced hazard data. Furthermore, local decision makers lack tools to understand the drivers of vulnerability and the magnitude of disaster risk associated with climate change. OHA, DLCD, DOGAMI and UO have collaborated to create a NOAA grant proposal to develop 2 new data sets for Oregon: 1) a social vulnerability index for the entire State and 2) climate-induced flood data for one watershed. Both data sets will be at the census tract scale. The new data will be applied in one pilot watershed to inform a LNHP update. This project will also further the development of the new risk assessment model that will inform the State and local communities more strategically target mitigation resources.	DLCD			2			
48a	NEW MP-33	Produce GIS database of resources in each "island" expected to be isolated after a Cascadia earthquake and resulting tsunami in order to preplan for response. Shapefiles are to be imported into RAPTOR, Oregon Explorer, and other GIS tools.		DOGAMI		23	3			
88	REVISED MP-28	Update Special Paper 29	Update 1999 Special Paper 29, Earthquake Damage In Oregon: Preliminary Estimates of Future Earthquake Losses, a statewide damage and loss estimation study. This update, at a minimum, should incorporate damage and loss estimates for a magnitude 9 Cascadia earthquake, an exposure analysis of tsunami hazards, and probabilistic hazards including updated probabilistic earthquake ground motions and flooding zones. School and emergency facilities from the 2007 DOGAMI database should be incorporated.	DOGAMI		18	3			
86	MP-14	Develop probabilistic multi-hazard risk maps for the Oregon Coast	Consider and examine combinations and permutations of multi-hazard risk exposure and maps for the entire Oregon Coast.	DOGAMI		17	3			
90	Revised CI-1M	Complete statewide risk prioritization: <ul style="list-style-type: none"> • Earthquakes • Tsunamis • Volcanoes • Flooding • Landslides • Coastal Hazards • Wildfire • Drought • Dust Storms • Wind Storms • Winter Storms 	Identify and then prioritize the highest risk issues.	DOGAMI, ODF, OWRD, OEM, ODOT		29				
92	NEW LU-19	Develop a system for prioritizing and ranking state-owned critical facilities for mitigation.		DOGAMI, DLCD, OEM		23	2			
91	NEW CI-25	Prioritize mitigation and retrofit projects on seismic lifelines.	ODOT Seismic Lifelines Evaluation, Vulnerability Synthesis and Identification Report provides recommended priority corridors but does not provide sufficient detail to actually prioritize retrofit investment packages. Engineering evaluations and cost estimation are ongoing on a funding-available basis and will inform that prioritization process.	ODOT		22	3			

94	Revised CI-1N	Complete statewide resilience initiatives: <ul style="list-style-type: none"> • Earthquakes • Tsunamis • Volcanoes • Flooding • Landslides • Coastal Hazards • Wildfire • Drought • Dust Storms • Wind Storms • Winter Storms 	Implement measures to improve the reliability of critical services	IHMT Agencies		29				
12	EO-9	Develop and fund a legislative package for general funds or lottery funds to match federal funding for local hazard mitigation planning, including additional funds for DLCD Technical Assistance Grants.	Continue – and enhance where possible – state technical and planning grant assistance to cities and counties for addressing issues associated with local hazards.	DLCD		28	1			
17	NEW LP-5B	Provide land use guidance and best practices for reducing risk within tsunami inundation zones to local governments.	The risk of tsunami hazard for Oregon's coastal communities is well-documented with the completion of comprehensive tsunami inundation maps developed by DOGAMI. The State of Oregon can assist affected communities by developing land use guidance for tsunami risk reduction, providing it to the communities, then assisting communities with its implementation. Monitoring success of the guidance will allow the State to adjust its approach and update the guidance as necessary.	DLCD		24	1			
100	REVISED EO-39A	Enroll 3 coastal communities in the Tsunami Ready Program each year.	The Tsunami Ready Program is a program sponsored by the National Weather Service that is designed to provide communities with incentives to reduce their tsunami risk. Cannon Beach was the first community for Oregon. Under a proposed plan through the NTHMP, three communities per year will be added to the rolls of the program. This program is currently evolving through a review process being carried out by the NTHMP National Coordinating Committee. OEM is the primary point of contact for more information about the Tsunami Ready Program.	OEM		23	1			
7	LP-2*	Complete a hazard mitigation policy legislative needs assessment	The Oregon NHMP contains a number of specific policy recommendations. In addition, the state of Oregon maintains a number of policies related to natural hazards and the mitigation thereof. It is unclear at this time what legislative action may be needed in order to fully implement existing and proposed mitigation actions. The State IHMT has identified greater interaction with the legislature as a top priority in the coming years. As a first step, the State IHMT recommends completing an assessment of the potential legislation needed to implement hazard mitigation policies. The assessment shall review existing and proposed policies and develop a list of potential legislative priorities.	OEM		22	1			
27	LU-1*	Develop model risk reduction techniques and ordinances for landslide-prone communities	Techniques can involve requiring geological or geotechnical studies for new development, storm water control for neighborhoods on hillslopes, strict land use ordinances for active landslides, working with infrastructure operators to increase reliability of services after storms, and more.	DLCD	DOGAMI	22	1			
33b	NEW EO-73	Form an Oregon Landslide Workgroup.	A key component of landslide risk reduction in Oregon is collaboration. The Oregon Landslide Workgroup is envisioned to be a partnership of representatives working together to improve the ability of Oregon communities to increase resiliency to landslides. Landslide hazards can range from regional to very localized. In order to reduce risk, the science, risk prioritization, and other risk reduction tools must be transferred to the communities where the risk reduction is primarily performed. The collaboration is very important because rarely are risk reduction tools created at local communities, but if the tools are transferred successfully, the communities will accomplish risk reduction.	DOGAMI		22	1			
40a	NEW EO-74	Upgrade the Oregon Landslide Warning System.	The current system is a good start, but needs updating. Updates should include better science including rainfall thresholds, use of local rainfall gages. A permanent real-time website should be constructed which should include a map showing the areas under the warning and what people should/can do. We should also track landslide events during warning periods and put out yearly/seasonal reports.	DOGAMI		22	1			
31	REVISED LU-8A	Develop guidance for local governments on how to use Goal 7 together with other pertinent Statewide Land Use Planning Goals to classify lands subject to natural hazards in the buildable lands inventory and adjust urban growth boundaries in a manner that minimizes or eliminates potential damage to life, property, and the environment while continuing to provide for efficient development patterns.	Goal 7 discourages new development in areas subject to natural hazards. Goal 14 and other Statewide Land Use Planning Goals encourage development within urban growth boundaries. Local governments need guidance on how to classify lands subject to natural hazards in their buildable lands inventories and adjust urban growth boundaries to protect life, property, and the environment from natural hazards while providing for efficient development patterns within urban growth boundaries. This guidance will assist local governments in integrating local natural hazard mitigation plans with comprehensive plans.	DLCD		21	1			
33a	NEW LU-20	Provide guidance to the maritime community for evacuation response for local Cascadia and distant tsunami events.		OEM, DOGAMI	DLCD	21	1			
48b	NEW MP-34	Use the anisotropic path modeling to measure the time needed to evacuate all parts of the maximum-considered Cascadia tsunami inundation zone in order to evaluate the need for vertical evacuation structures and improvements in evacuation routes		DOGAMI		21	1			
9	REVISED LP-12	Work with Business Oregon to introduce in 2015 legislation allowing reconstruction of structures that cannot feasibly be retrofitted.	Revise SRGP legislation or develop an alternate funding mechanism to help replace schools and emergency facilities that are too structurally deficient for cost-effective retrofit and need to be replaced instead. This would also include structures in the "local" tsunami inundation zone that should not be retrofitted in-place but, rather, rebuilt on natural high ground.	OEM		19	1			

11	NEW LP-24	Request LCDC to include Local Natural Hazard Mitigation Planning as a priority for DLCD Technical Assistance Grant awards to use as match for federal funds when available.	The Land Conservation and Development Commission (LCDC) awards Technical Assistance Grants to local governments to support local planning efforts in certain priority land use topic areas which at this time do not include natural hazard mitigation. If LCDC were to include natural hazard mitigation planning as a priority topic area, local governments would have the opportunity to compete for funding and the state would be better able to provide technical assistance for natural hazard mitigation planning.	DLCD		19	1			
28	LU-2*	Develop a process for implementing revised elements of Goal 7	Goal 7 currently includes a process for notification to local governments of new hazard information. It also requires that local governments review any new hazard information brought to their attention and determine if a local land use response is needed. (LCDC adopted the revised goal in 2001. The revised Goal 7 became effective in June 2002.) Since the Goal's revision, several studies and reports on natural hazards have been published and disseminated. The process for determining which information should trigger local land use evaluations, however, remains untested. DLCD will implement the process, review the results, and determine whether any changes are necessary. This action is necessary to ensure that local governments evaluate and respond to information regarding natural hazards within their communities.	DLCD		19	1			
97	REVISED LP-19A	Develop and implement flood protection standards for state-owned and -leased buildings.	According to the Senate Bill 814 Task Force (Oregon Legislature, 1997 Session), there is a need to develop and effectively implement a strict standard governing the siting, construction, and leasing of buildings occupied by state agencies in flood-prone areas.	DAS	DLCD	19	1			
98	REVISED EO-1*A	Add at least one jurisdiction, with emphasis on coastal jurisdictions, to the Community Rating System (CRS) program during the life of each Oregon NHMP.	<p>The end part of the NHMP is a program that rewards communities for going above and beyond the minimum requirements of the NFIP in minimizing potential losses due to flooding. Participating in the CRS benefits the jurisdiction with extra flood protection and benefits property owners by lowering flood insurance rates. The state will continue its efforts to implement CRS in local communities. See the CRS Information Center at: http://training.fema.gov/EMIWeb/CRS/ for more information.</p> <p>Each year DLCD conducts community assistance visits in an average of five NFIP communities. During this process, qualified jurisdictions will be encouraged to participate in CRS or strengthen CRS ratings. DLCD will also create a "pathway to CRS" schedule for each jurisdiction for which it conducts a community assistance visit.</p>	DLCD		19	1			
102	REVISED CI-14A	Develop plans for rapid mobilization of inspectors for post disaster facility inspection.	Create rapid communication networks to effectively alert necessary inspectors when disasters occur. Work with OEM, local government building officials, and emergency planners to establish an effective process for assigning inspection teams to needed areas and educating local governments regarding the circumstances and process for initiating BCD and state involvement.	BCD, OEM		19	1			
19	REVISED LP-10	Incorporate text addressing hazard mitigation into natural resource agencies' guidance and process documents focusing on environmental quality to ensure that natural resources are protected in the design and construction of hazard mitigation projects.	<p>Government and private nonprofit agencies in Oregon must address complex issues associated with flood hazard mitigation in the context of clean drinking water, riparian habitat, watershed health, fisheries, wetlands protection, and overall environmental quality.</p> <p>An important plan related to this effort is the Oregon Plan for Salmon and Watersheds. Solutions require multi-agency and intergovernmental efforts. While the decisions and projects will vary with each disaster, the state will continue its efforts to develop appropriate policies and criteria to ensure that these are considered along with hazard mitigation needs. This includes guidance on large wood placement, restoration after flood events, and habitat-friendly methods to accomplish pre- and post-disaster hazard mitigation. Watershed assessments being completed around the state by local watershed councils will be used in the evaluation of flood hazards and floodplain processes.</p>	ODFW, DSL		18	1			
25	CI-19	Develop evacuation plans for ports and harbors	Ports and harbors are the haven for commercial and recreational fishing and recreational boating industries. They are often the major centers of economic activity in coastal communities that have bays. To protect the vessels from tsunami damage requires a unique evacuation plan for both distant and local tsunamis. The plans should be integrated with community evacuation plans. The Oregon State University Extension Sea Grant Program has identified this as a major issue in their pilot project in Yaquina Bay. Their project is titled Reducing Earthquake and Tsunami Hazards in the Pacific Northwest Ports and Harbors. For distant tsunami events and storm surge events that can occur during any winter, evaluate potential port and harbor mitigation retrofit projects that protect and strengthen floating and anchored infrastructure such as piers, bulkheads and landings.	OEM, DOGAMI	DLCD	18	1			
33	REVISED LU-17A	Integrate the GIS database of tsunami safe zones, evacuation routes, and evacuation sites into local government databases.	Assist counties not only with how to integrate the data, but also how the data can be used for tsunami evacuation planning.	OEM	DOGAMI	18	1			

58	EO-22	Encourage the purchase of earthquake insurance	Unlike flood insurance, which is underwritten by the U.S. Government (through the National Flood Insurance Program), earthquake insurance is offered by private sector agents and generally "packaged" as a rider to a standard homeowner or business property insurance policy. For some people, the question should not be whether or not to purchase earthquake insurance, but rather, how much to buy. For others, the decision requires a risk assessment: how likely is an earthquake?; how much damage would it inflict on ones property?; and how much can one afford to lose? Earthquake insurance rates are determined differently by each insurance company and can vary widely depending on several rating factors. Generally, older homes cost more to insure than new homes. Wood homes get better rates than brick ones because they tend to withstand earthquake stresses better. Because earthquake insurance is a type of catastrophic coverage, most policies carry a high deductible; usually anywhere from 5% to 15% of the value of a house. It is recommended that state agencies, local governments, and private sector insurance companies do a better job of promoting the purchase of earthquake insurance.	DCBS-ID		18	1			
50	EO-10	Facilitate accessibility and use of the Coastal Atlas GIS resources.	Make the <i>Coastal Atlas</i> geographic information system (GIS) more useful for a wider audience, from local and state staff to interested citizens, by continuing to improve its data and tools, and provide training on how to access and use them.	DLCD, OPRD		18	1			
99	NEW EO-1B	Strengthen the existing CRS rating of at least one jurisdiction, with emphasis on coastal jurisdictions, during the life of each Oregon NHMP.	The CRS, part of the NFIP, is a program that rewards communities for going above and beyond the minimum requirements of the NFIP in minimizing potential losses due to flooding. Participating in the CRS benefits the jurisdiction with extra flood protection and benefits property owners by lowering flood insurance rates. There are a number of measures a community can implement to obtain a CRS rating, and most communities do not implement them all. As a community implements more CRS flood protection measures, its CRS rating is strengthened, and the community is rewarded with better flood protection and lower flood insurance rates.	DLCD		18	1			
101	NEW EO-69	Establish a web page where building owners can register their interest in participating in acquisition programs for flood-damaged buildings. The on-line page complements OEM and DLCD's on-going prospective outreach to owners of identified Repetitive Loss and Severe Repetitive Loss buildings.	FEMA funds can be used to buyout repetitive loss and severe repetitive loss properties in the floodplain. The paperwork and process to achieve a buyout are lengthy and complex. First and foremost, a property owner must be willing to sell. Buyout funds could be more efficiently and effectively spent if willing sellers were identified and paperwork prepared before funds became available. This registry would augment the state's current outreach efforts, making it easy for willing sellers to identify themselves and for the state to prepare for and execute buyouts.	DLCD, OEM		18	1			
29	REVISED LU-3*	Provide technical assistance to local governments to help integrate hazard mitigation plans with local comprehensive plans.	Local NHMPs are often adopted as an appendix to the comprehensive plan or separately and are therefore in practice not used to their full potential. By assisting local governments in integrating the two plans, hazard mitigation will be more easily and meaningfully implemented in local land use planning practice. In late 2013, a pilot project to integrate the City of Madras's comprehensive plan and NHMP is getting underway, and is expected to be completed within a year. It is anticipated that more local jurisdictions will undertake this effort when updating their NHMPs or comprehensive plans.	DLCD, OPDR		17	1			
54	REVISED EO-19A	Designate May to be Volcano Awareness Month by Governor's declaration.	Working with federal partners, such as the USGS Cascades Volcano Observatory, the state of Oregon will increase the ability for citizens to respond to volcanic eruptions by increasing the level of awareness and preparedness in the public and governmental agencies.	OEM		16	1			
55	NEW EO-19B	Host at least one workshop or other educational opportunity on a biennial basis in communities where a volcano Coordination Plan has been adopted.	The State of Oregon will actively work to increase the public's knowledge of the volcano hazard in Oregon.	OEM		16	1			
56	REVISED EO-20A	Designate the third Thursday of the month of October as the Great Oregon ShakeOut Day by declaration of the Governor.	Practicing to "Drop, cover, and hold" is critical in reducing injury and loss of life in the workplace and home during an earthquake. The more people practice the drill, the better they will respond to a real event. A gubernatorial declaration will promote increased participation in the Great Oregon ShakeOut, or other annual earthquake Drop, Cover, and Hold On drill.	OEM		16	1			
57	NEW EO-20B	Achieve 100% state agency participation in the Great Oregon ShakeOut	Practicing to "Drop, cover, and hold" is critical in reducing injury and loss of life in the workplace and home during an earthquake. The more people practice the drill, the better they will respond to a real event. State agencies are setting an example by conducting a drill annually. The State of Oregon will have 100% State agency participation in the Great Oregon ShakeOut and will encourageschools and universities to participate.	OEM		16	1			
26	NEW CI-22	Fund and provide technical assistance for local governments to engage in evacuation route planning and project implementation.	After a Cascadia Subduction Zone earthquake, a tsunami could arrive within minutes. It is essential that residents and visitors be able to quickly move to high ground. Some evacuation planning is already underway. Local governments need funding and technical assistance to begin or continue to engage in evacuation planning.	OEM, DLCD		15	1			
95	LP-15	Develop incentive/subsidy program for retrofit of one and two family residences	Design a system of grants or tax credits to encourage homeowners to retrofit residences to minimize displaced post-earthquake shelter demand and reduce population loss during recovery.	OEM		14	1			

103	REVISED CI-21	Implement better wayfinding solutions for tsunami evacuation. Create hardened and improved evacuation routes to include elevated safe areas above the level of modeled inundation.	After a Cascadia Subduction Zone earthquake, a tsunami could arrive within minutes. It is essential that residents and visitors be able to quickly move to high ground on foot. This requires clearly marked and safe routes that pedestrians are able to navigate even in dark and stormy weather. Where high ground is available, projects should be identified that will enable Oregon to establish new standards and guidelines for methods to harden and mark way-finding of tsunami evacuation routes to natural high ground. Where natural high ground is not within the expected evacuation time, evaluate the retrofit of existing facilities and/or construction of new facilities that rise above the level of tsunami inundation and can serve as safe haven refuges.	OEM, DOGAMI		14	1			
10	NEW LP- 23	Request the legislature to fund the "State Disaster Relief Fund" immediately following a presidentially declared disaster or other disaster.	The State Disaster Relief Fund includes an account that can be used to fund local government and school district mitigation projects after a presidentially declared disaster. The legislature may authorize deposits to the account when requested.	OEM		11	1			
6	LP-1*	Review and re-establish State IHMT membership and member responsibilities	When first established, the State IHMT membership consisted largely of agency directors or other high level agency staff. Over time, agency interaction with and oversight of State IHMT activities has been delegated. In some instances, this has resulted in better connection with the individuals that are actually responsible for mitigation activities in the respective agencies. In other cases, such delegation has resulted in the loss of an overall understanding of mitigation activities occurring throughout individual agencies. Given the lack of dedicated resources at the agency level for participation in the State IHMT, a review and re-establishment of the State IHMT membership and member responsibilities based on current resource constraints is needed.	OEM		23	2			
8	LP-3*	Establish statutory authority for the State IHMT	Since its formation, the State IHMT has continued to play major roles in hazard mitigation activities, including the development of this hazard mitigation plan. There is strong agreement that the State IHMT is important, should be continued, and ought to be made permanent because it is the only state body focused on coordination of natural hazard mitigation. It is recommended that the State IHMT be formally established in Oregon statute.	OEM		23	2			
22	EO-11	Produce Coastal Development Handbook	Produce a <i>Coastal Development Handbook</i> that addresses coastal process and hazards, beach and shoreland public policy, buying oceanfront property [what to look for, what questions to ask], building on oceanfront property, choosing appropriate hazard mitigation techniques, and choosing and using geotechnical consultants and engineers.	DLCD		22	2			
21	Revised EO-6A	Update <i>Planning for Natural Hazards: Oregon Technical Resource Guide</i> .	<i>Planning for Natural Hazards: Oregon Technical Resource Guide</i> was published in 2000 and needs to be updated.	OPDR		20	2			
35	REVISED EO-13	Determine the effectiveness of the Emergency Alert System (EAS) in dust prone areas at providing timeline information to the traveling public about dangerous blowing dust conditions and make improvements if needed.	One of several ideas proposed following the Sept. 1999 accidents on Interstate 84 near Echo was to "put word out quickly" utilizing the Emergency Alert System (EAS) via area radio stations about dust storm potential, and especially about actual conditions that are interfering with visibility. This idea was in addition to ODOT's Highway Advisory Radio and related resources noted as success stories on pages DS-5 to DS-7. With regard to the Mid-Columbia Region, it was noted that Tri-Cities radio stations need to be included because many people driving through that area are listening to stations based in Washington State. ODOT and OSP have primary responsibility for activating the traffic advisory components of the dust storm response plan for the Mid-Columbia Region. The National Weather Service can also activate EAS from their forecast offices in Pendleton, Boise, Medford, and Portland. Many local emergency program managers can also activate the system.	OEM	ODOT, OSP	20	2			
104	NEW CI- 26	Continue to act upon opportunities to advance the State's lifeline mitigation investment practice.	Expand upon the State's mitigation investment practice by: (1) Supporting efforts by jurisdictions and transportation districts to develop mitigation policy and retrofit plans for lifeline assets and service facilities; (2) Continuing to advance design and maintenance standards and requirements for bridges and unstable slopes, transit, rail, ports, and priority lifeline airfields; (3) Developing a temporary bridge installation policy and standards; (4) Supporting research on retrofit methods and strategies for Cascadia subduction zone earthquake loads and tsunamis.	OEM, ODOT		20	2			
62a	NEW EO- 72	Facilitate self sustaining outreach programs staffed by Community Emergency Response Teams (CERT) or CERT-like organizations in each coastal population center aimed at creating a culture of preparedness and response for both local Cascadia and distant tsunami events.	Nearly all coastal communities participated at some level over the last 4 years in implementation of outreach techniques tested in a 2005 pilot study of Seaside (#1 priority = door-to-door education; #2 priority = community evacuation drill; #3 = K-12 education supplemented by workshops targeted at specific user groups such as the lodging industry). Sustainability of these pilot programs needs to be measured, deficits identified and resolved (State facilitation and leadership needed).	OEM		20	2			
105	NEW MP- 31	Support and implement the actions in the February 2013 Oregon Resilience Plan and recommended in the Oregon Resilience Plan Task Force's October 2014 report (SB33, 2013).	The Oregon Resilience Task Force was established by Senate Bill 33. It is tasked to facilitate a comprehensive and robust plan to implement the strategic vision and roadmap of the Oregon Resilience Plan for responding to the consequences of naturally occurring seismic events associated with geologic shift along the Cascadia subduction zone. The Task Force's report is due to the legislature by October 1, 2014.	OEM		18	2			

24	NEW EO-71	Prepare model coordination protocols for local Floodplain Managers and Building Officials.	Local government Floodplain Managers and Building Officials are often unaware of the other's role in floodplain management and how they could work together to better manage floodplain development and mitigate flood hazards. Providing model protocols for the two positions to coordinate would increase each one's awareness of the other's role, ultimately enhancing local flood hazard mitigation.	DLCD		17	2			
84c	REVISED CI-4D	Use DAS-EAM compiled data and investigation/inventory of seismic and flood risk to DAS-owned and -leased buildings in effective, routine decision processes for building occupancy, maintenance, use and potential mitigation treatments.	This information over time can provide for strategic and responsible voluntary seismic upgrade in areas of greatest need for reasonable cost as a part of broader facilities management.	DAS-CFO		17	2			
96	LP-16	Develop incentives to increase the rate of replacement of privately-owned seismically deficient buildings	Develop tax incentives, permitting facilitation, other means to increase the natural rate of building turnover.	OEM		14	2			
31a	REVISED LU-8B	Provide funding and technical assistance to local governments to use the new guidance on classifying lands subject to natural hazards in their buildable lands inventories and adjusting urban growth boundaries to protect life, property, and the environment from natural hazards while providing for efficient development patterns.	Local governments need funding and technical assistance to be able to use the new guidance on how to classify lands subject to natural hazards and adjust urban growth boundaries to protect life, property, and the environment from natural hazards while providing for efficient development patterns within urban growth boundaries. Comprehensive Plan amendments are likely to result. This funding and technical assistance will promote integration of local natural hazard mitigation plans with comprehensive plans.	DLCD		21	3			
30	LU-5	Develop guidance on determination of mudslides/mudflow triggers and relation to rain/flood events	Work with FEMA Region 10, DOGAMI, and other interested parties to develop scientifically and legally-based guidance on when mudflows/mudslides are to be considered part of a rain/flood event pursuant to the NFIP. Address the definition of mudflow/mudslide, regulatory factors, scientific understanding of mudslides, and implications for flood insurance.	DLCD, DOGAMI		20	3			
40	REVISED MP-25	Install a multi-function lahar warning system in areas of high vulnerability	A warning system should be developed for volcano and weather-induced hazards like flood, channel migration, and landslides.	DOGAMI		19	3			
44	EO-15	Coordinate development of a post-disaster scientific and technical clearinghouse with other state and federal agencies, higher education, and associations.	When an earthquake, flood, tsunami, or other disaster strikes the state, there will be an influx of scientists and engineers from inside and outside the state to study the event and offer help. There needs to be a coordination of their efforts to put them to use in the most efficient and effective way possible. This clearinghouse will work with the emergency coordination center established immediately after the earthquake, flood, tsunami, or other disaster.	DLCD	OEM, DOGAMI	18	3			